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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/695,759

10/30/2003

Takushi Yokoyama

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6887

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7590

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EXAMINER

GELLNER, JEFFREY L

ART UNIT

PAPER NUMBER

3643

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,759

Applicant(s)

YOKOYAMA ET AL.

Examiner

Jeffrey L. Gellner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) 5,6,8,9,16 and 17 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4, 7, 10-15, 18-27 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The allowability of claim 12 is withdrawn because of the amended language of this claim in the amendment received 8 May 2006.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7, 10-15, and 18-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poole et al. (US 5,386,775) in view of Kishi et al. (US 4,021,275) in further view of Hinshaw et al. (US 5,241,281 B1).

As to claims 1 and 27, Poole et al. discloses a gas generating composition (col. 1 lines 5-8) comprising silica (col. 2, lines 65-68) and aluminum hydroxide (col. 2, lines 65-68). Not disclosed is the use of glass powder and a specific binder. Kishi et al., however, discloses the use of glass (col. 4 lines 28-46) with silica; Hinshaw et al. discloses a binder, guar gum (col. 11 lines 54-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition Poole et al. by using powdered glass as disclosed by Kishi et al. so as to have larger slag fragments which are easier to filter (from Kishi et al. at col. 4 lines 28-46) and to use a binder as disclosed by Hinshaw et al. so as to improve mechanical properties (Hinshaw et al. at col. 3 lines 15-2).

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As to claims 2, 10, and 12, Poole et al. discloses a gas generating composition (col. 1 lines 5-8) comprising silica (col. 2, lines 65-68); aluminum hydroxide (col. 2, lines 65-68); an organic fuel, guanidine nitrate (col. 2 lines 46-54); and an oxygen-containing oxidizing agent (col. 2 lines 55-60). Not disclosed is the use of glass powder and a specific binder. Kishi et al., however, discloses the use of glass (col. 4 lines 28-46) with silica; Hinshaw et al. discloses a binder, guar gum (col. 11 lines 54-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition Poole et al. by using powdered glass as disclosed by Kishi et al. so as to have larger slag fragments which are easier to filter (from Kishi et al. at col. 4 lines 28-46) and to use a binder as disclosed by Hinshaw et al. so as to improve mechanical properties (Hinshaw et al. at col. 3 lines 15-2).

As to claim 7, Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose quartz glass, soda lime glass, lead glass, aluminoborosilicate glass, borosilicate glass, aluminosilicate glass, and chalcogen glass (Kishi et al. at col. 4 lines 40-46).

As to claim 13, Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose talc and clay (Poole et al. at col. 2 lines 65-68).

As to claims 19 and 20, Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose a molded article by extrusion or an inflator (inherent in Poole et al. as modified by Kishi et al. and Hinshaw et al.).

As to claims 22-26, Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose the glass powder being 5 to 300 microns. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the further modify the composition of Poole

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et al. as modified by Kishi et al. and Hinshaw et al. by having the mass of the glass powder from 05. to 5% so as achieve a desired slag effect.

As to claim 3, Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose a metal oxide additive (Hinshaw et al. at col. 9 lines 54-63). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition Poole et al. as modified by Kishi et al. and Hinshaw et al. by adding a metal oxide additive as disclosed by Hinshaw et al. so as to modify the burn rate (Hinshaw et al. at col. 9 lines 54-63).

As to claim 4, the limitations of claim 3 are disclosed as described above. Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose component (c) between 30 and 60% (Poole et al. at col. 5, Example 1); and component (d) 60% or less ((Poole et al. at col. 5, Example 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition Poole et al. as modified by Kishi et al. and Hinshaw et al by making the components have the percentages as disclosed in claim 4 so as to achieve a desired burn rate and gas generation.

As to claim 11, Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose a basic metal nitrate ("gerhardite" of Table 2 of Hinshaw et al.).

As to claim 14, Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose aluminum hydroxide (Poole et al. at col. 2 lines 65-68). Not disclosed is the binder being 1 to 5% mass. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition Poole et al. as modified by Kishi et al. and Hinshaw et al by making the binder 1 to 5% mass so as to achieve a desired mechanical strength (from Hinshaw et al. at col. 3 lines 15-20).

As to claim 15, Poole et al. discloses a gas generating composition (col. 1 lines 5-8) comprising silica (col. 2, lines 65-68) and guanidine nitrate (col. 2, lines 46-54). Not disclosed is the use of glass powder, basic copper nitrate, and a specific binder. Kishi et al., however, discloses the use of glass (col. 4 lines 28-46) with silica; and, Hinshaw et al. discloses basic metal nitrate ("gerhardite" of Table 2 of Hinshaw et al.) and a binder, guar gum (col. 11 lines 54-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition Poole et al. by using powdered glass as disclosed by Kishi et al. so as to have larger slag fragments which are easier to filter (from Kishi et al. at col. 4 lines 28-46) and to use basic copper nitrate as disclosed by Hinshaw et al. so as to have a cool burning compound that is less costly (see Hinshaw et al. at col. 12 lines 36-47) and to use a binder as disclosed by Hinshaw et al. so as to improve mechanical properties (Hinshaw et al. at col. 3 lines 15-2).

As to claim 18, Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose Al hydroxide (Poole et al. at col. 2 lines 65-68).

As to claims 19,20, and 21, Poole et al. as modified by Kishi et al. and Hinshaw et al. further disclose a molded article by extrusion or an inflator (inherent in Poole et al. as modified by Kishi et al. and Hinshaw et al.).

Response to Arguments

Applicant's arguments filed 8 May 2006 have been fully considered but they are not persuasive. Applicants' argument is that neither Poole et al., Kishi et al., nor Hinshaw et al. disclose one of the specific binders claimed by Applicant (Remarks page 13, bottom half; page

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15 top half). Examiner considers Hinshaw et al. to disclose at least guar gum at, for example, col. 11, lines 54-64.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

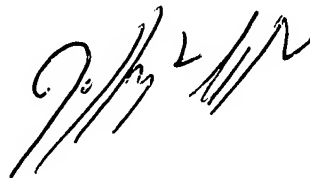
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'J. Gellner', with a stylized flourish at the end.

Jeffrey L. Gellner
Primary Examiner
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